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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/526,833	07/20/2005	Jusheng Wu	05503-PCT	1102

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EXAMINER	
KWIECINSKI, RYAN D	

ART UNIT	PAPER NUMBER
3635	

NOTIFICATION DATE	DELIVERY MODE
08/28/2009	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/526,833	WU ET AL.	
	Examiner	Art Unit	
	RYAN D. KWIECINSKI	3635	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *02 May 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Specification

The amendment filed 2 May 2009 is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows:

The amended paragraph which is to be inserted on Page 9, line 18 to Page 10, line 2, contains new matter entered into the specification.

Lines 8-10, the recitations include “adhered only to the bottom planar glass sheet" and "the top planar glass sheet is supported but not adhered". Nowhere in the original specification is it mentioned that the support members are only adhered to the bottom sheet and the top sheet is not adhered to the support members.

Applicant is required to cancel the new matter in the reply to this Office Action.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-18 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to

one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim 1, lines 11-12, the recitation added in the amendment is consider new matter and is not properly disclosed in the original disclosure. The disclosure fails to recite the claimed subject matter of the support means “only” being adhered to the first glass sheet. This newly added recitation is not thoroughly supported by the disclosure and is therefore determined to be new matter in the application. The Applicant thoroughly describes the evacuated panel and the method of forming the panel, but before the present amendment has failed to describe a specific step in the process where the supports are "only" adhered to the first glass sheet.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-2, 7, 9, 11, 14, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 5,657,607 to Collins et al. in view of US 6,503,583 B2 to Nalepka et al.

Claim 1:

Collins et al. disclose a method of fixing support means disposed within an evacuated glass panel (Fig.1), said evacuated glass panel including at least two planar glass sheets (2,3, Fig.1) having support means (5, Fig.1) disposed therein, said method comprising at least the following steps of:

applying a solution layer (19, Fig.3) on a surface of a first planar glass sheet (Fi.g3);

placing said support means on said solution layer (5, Fig.3; Column 7, lines 18-25) above said first planar glass sheet;

covering an upper surface of said support means with a second planar glass sheet (2, Fig.3; Column 6, lines 14-16, 44-56), said support means being stably positioned between said first and second planar glass sheets by the solution layer; and

heating said solution layer to dry so as to fix said support means between said first and second planar glass sheets (Column 6, lines 51-56);

wherein each of the above steps is performed in sequential order (Column 6, lines 51-56).

Collins et al. do not disclose support means only adhered to said first planar sheet not do they specifically disclose wherein the support means being stably positioned by liquid immersion and surface tension, but does disclose wherein the solution layer is formed from a liquid solution. Therefore it would have been obvious that the support pillars are in fact held in place by liquid immersion and the surface tension of the liquid solution.

Nalepka et al. disclose support means only adhered to said first planar sheet.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have formed the evacuated panel with the support means only adhered to the surface of the first glass sheet so the support means would be at least partially slidable relative to the second glass substrate. This will allow the support members to support the second glass sheet as well as slide relative the second glass sheet when forces are applied to the sheet. The slidable support members will deal with the forces applied directly to the surface of the second glass sheet but will also be able to withstand the shear forces, contractions, etc. due to weather, temperature, etc.

Claim 2:

Collins et al. in view of Nalepka et al. disclose the method of claim 1, wherein the solution layer partly covers (19, Fig.3; Column 7, lines 18-20) said surface of said first planar glass sheet.

Claim 7:

Collins et al. in view of Nalepka et al. disclose the method of claim 1, wherein said second planar glass sheet is a top planar glass sheet (2, Fig.1 and 3) of said evacuated glass panel.

Claim 9:

Collins et al. in view of Nalepka et al. disclose an evacuated glass panel (Fig.10), manufactured by the method according to claim 1 (see claim 1 above), comprising a top

planar glass sheet (2, Fig.1), a bottom planar glass sheet (3, Fig.1), support means (5, Fig.1), and a seal component (4, Fig.1) around a periphery of said top and bottom planar glass sheet, wherein said support means are disposed between said top and bottom planar glass sheets (5, Fig.1); said support means is adhered to an upper surface of said bottom planar glass sheet through a residual solution layer (19, Fig.3); and a cavity between said top and bottom planar glass sheet is an evacuated space (Column 5, lines 38-39).

Claim 11:

Collins et al. in view of Nalepka et al. disclose the glass panel of claim 9, wherein said support means comprises a plurality of support members each being a solid pillar (5, 9, Fig.3).

Claim 14:

Collins et al. in view of Nalepka et al. disclose the glass panel of claim 9 wherein said residual solution layer is an adherent layer formed after volatilization of a non-organic solution (19, Fig.3); said adherent layer partly covers said upper surface of said bottom planar glass sheet (19, Fig.3; Column7, lines 18-20).

Claim 16:

Collins et al. in view of Nalepka et al. disclose the glass panel of claim 14, wherein said non-organic solution comprises indium oxide (layer on the glass comprises indium tin oxide; Column 6, lines 10-12).

Claims 3-4, 6, 8, and 17-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 5,657,607 to Collins et al. in view of US 6,503,583 B2 to Nalepka et al. in view of US 6,479,112 B1 to Shukuri et al.

Claim 3:

Collins et al. in view of Nalepka et al. disclose the method of claim 1, but does not specifically disclose the method used to apply the solution layer.

Shukuri et al. discloses wherein the solution layer is applied by way of printing (Column 11, lines 10-15).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used the method of printing to apply the solution layer to the glass sheet. Printing is a well known method of applying thin layers to glass sheets. Any acceptable method that would successfully apply the solution layer to the glass sheet would have been obvious to have bused in the method of forming the evaporated glass panel.

Claim 4:

Collins et al. in view of Nalepka et al. in view of Shukuri et al. disclose the method of claim 3, Collins et al. discloses wherein the solution layer is an inorganic solution layer (Column 6, lines 33-35).

Claim 6:

Collins et al. in view of Nalepka et al. in view of Shukuri et al. disclose the method of claim 4, wherein said non-organic solution comprises indium oxide (layer on the glass comprises indium tin oxide; Column 6, lines 10-12).

Claim 8:

Collins et al. in view of Nalepka et al. disclose the method of claim 1, wherein the step of heating said solution comprises raising the temperature of the solution layer (Column 6, lines 51-56), but does not specifically disclose an oven drying process.

Shukuri et al. specifically disclose oven drying (Column 11, lines 30-35).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used an over drying process if the solution layer needed to have the temperature raised. An obvious way to thoroughly heat a glass panel is by placing the glass panel in an oven with raised temperatures.

Claim 17:

Collins et al. in view of Nalepka et al. disclose the evacuated panel according to claim 9, wherein said seal component is an edge frame component sealed and jointed

vertically around said periphery of said top and bottom planar glass sheets (4, Fig.1; 42, Fig.8).

Collins et al. disclose a glass solder but do not specifically disclose the seal component affixed by sintering low melting point glass powders applied on an inner side of the side edge frame component.

Shukuri et al. do disclose the frame component formed from low melting point glass (Column 10, lines 31-32) and also disclose the use of low melting point glass frit to secure the support members to the glass (Column 11, lines 1-15) and also the process of sintering (Column 15, lines 50-60) to affix the support members to the glass sheets.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have affixed the seal component to the glass sheets using the sintering process and low melting point glass powders. Shukuri et al. discloses the materials and the process for securing the materials to the glass sheets so it would have been obvious to employ the process of sintering with the low melting point glass seal since it is a known process in the art of evacuated glass panels.

Claim 18:

Collins et al. in view of Nalepka et al. in view of Shukuri et al. disclose the glass panel of claim 17, Shukuri et al. also disclose wherein said seal component is a glass strip (6, Fig.10).

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over US 5,657,607 to Collins et al. in view of US 6,503,583 B2 to Nalepka et al. in view of US 6,479,112 B1 to Shukuri et al. in view of US 6,365,242 B1 to Veerasamy.

Claim 5:

Collin et al. in view of Nalepka et al. in view of Shukuri et al. disclose the method of claim 4, but does not directly disclose wherein said organic solution layer is rosin spirits.

Veerasamy does not directly disclose using the rosin spirits as solution layers for the support means but does disclose using rosin spirits to aid in the hermetic sealing and bonding process of the peripheral seal of the glass panel.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used the organic solution of Veerasamy to fix the support means of the glass panel of Collins et al. to the upper surface of the bottom glass panel. The materials are known solutions that help in the bonding of the glass materials to one another in order to form a secure bond.

Claims 10 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 5,657,607 to Collins et al. in view of US 6,503,583 B2 to Nalepka et al. in view of US 5,270,084 to Parker.

Claim 10:

Collins et al. in view of Nalepka et al. disclose the glass panel of claim 9 but does not disclose the planar sheet on which the support means is disclose to be an intermediate sheet.

Parker discloses three layers of planar glass sheets with intermediate sheet (A, Fig.6) having support means disposed on both sides in both cavities (23,25, Fig.6).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have formed the glass panel of Collins et al. with three planar glass sheets in order to enhance the thermal and heat transfer properties of the glass panel. It is notoriously well know that the thermal properties increase as another sheet of glass as well as another evacuated cavity is formed in the overall glass panel. The upper layer of the intermediate glass sheet and the solution layers the same as disclosed for the bottom glass sheet in claim 9 above.

Claim 12:

Collins et al. in view of Nalepka et al. in view of Parker disclose the glass panel of claim 10, Collins et al. also disclose said support means comprise a plurality of support members uniformly disposed on said upper surface of said bottom planar glass sheet (5, Fig.2).

Parker also discloses said upper support means comprise a plurality of support members uniformly disposed on said upper surface of said top planar glass sheet (Parker discloses support members on the upper surface of A, Fig. 5-7, Fig.2).

Claims 11 and 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over US 5,657,607 to Collins et al. in view of US 6,503,583 B2 to Nalepka et al. in view of US 5,512,341 to Newby et al.

Claim 11 and 13:

Collins et al. in view of Nalepka et al. disclose the glass panel of claims 9, but does not disclose wherein said support means is a hollow pillar with a hole in a side surface of the pillar.

Newby et al. disclose a hollow support means (6, Fig.2) with a hole (16, Fig.2) in a side surface.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have formed the glass panel of Collins et al. with hollow support means with a hole in the side of the support means in order to connect the interior hollow portion with the cavity of the glass panel. The hole allows the support means to be filled with desiccant which will ensure the evacuated cavity remains moisture free. It is notoriously well known to include support means in the inter cavities of glass panels which have an interaction with the cavity in order to provide materials such as desiccants.

Response to Arguments

Applicant's arguments with respect to claims 1-18 have been considered but are moot in view of the new ground(s) of rejection necessitated by the applicants amendment.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to RYAN D. KWIECINSKI whose telephone number is (571)272-5160. The examiner can normally be reached on Monday - Friday from 9 am to 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Basil Katcheves can be reached on (571)272-6846. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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